

FIGURE 1

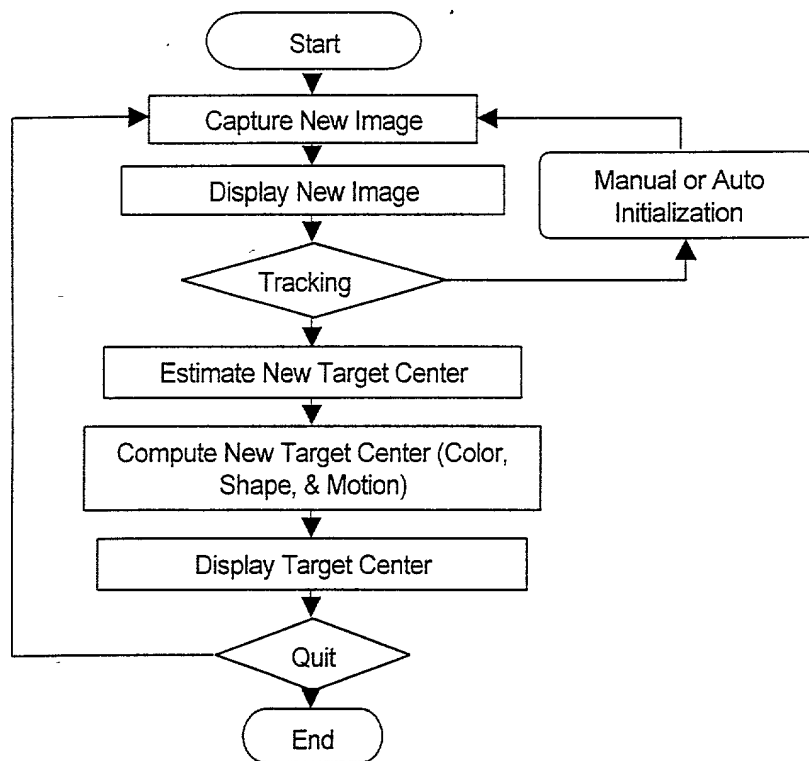


FIGURE 2

FIGURE 3

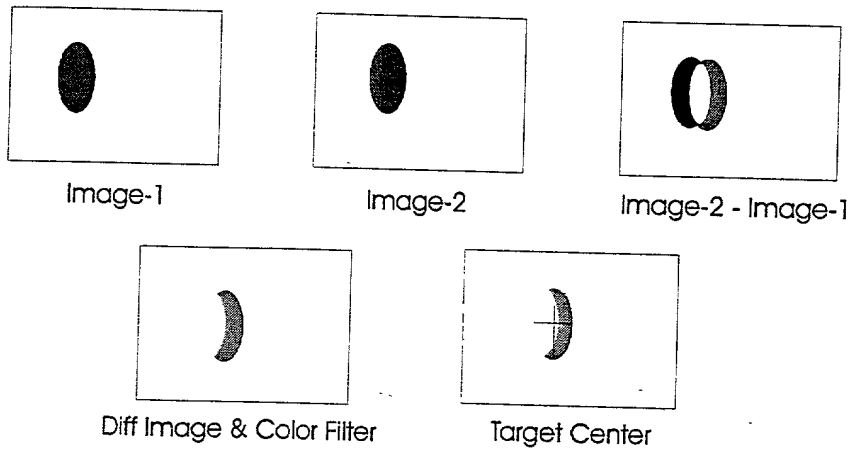


FIGURE 4

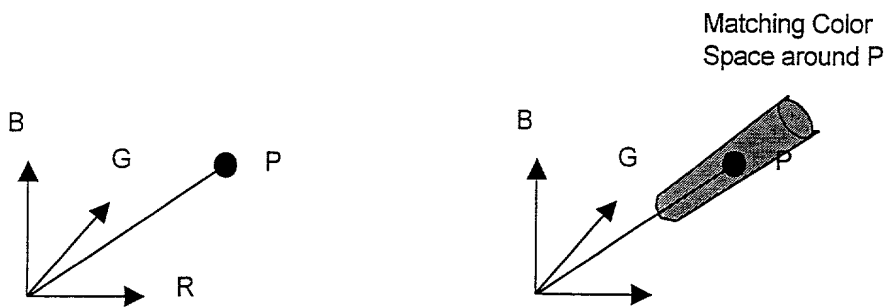


FIGURE 5

Given new image and the estimated target center as rc , cc and old target shape
begin

```
for  $i=rc-rs/2$  to  $i=rc+rs/2$ 
  for  $j=cc-cs/2$  to  $j=cc+cs/2$ 
     $RGB = \text{pixel}(i,j)$ 
     $c = \text{FindColorMatch}(RGB)$ 
    if  $c > 0$ 
       $cr = c*i$ 
       $cc = c*j$ 
      if this pixel lies on the previous shape template
         $sr = c*i$ 
         $sc = c*j$ 
         $s = c$ 
      else pixel shows movement
         $mr = c*i$ 
         $mc = c*j$ 
         $m = c$ 
      endif
      mark this pixel in the next shape template
       $Nc = Nc + c$ 
       $Ns = Ns + s$ 
       $Nm = Nm + m$ 
    else
      unmark this pixel in the next shape template
    endif
  endfor
endfor
```

```
 $cr = cr/Nc$ ,  $cc = cc/Nc$ 
 $sr = sr/Ns$ ,  $sc = sc/Ns$ 
 $mr = mr/Nm$ ,  $mc = mc/Nm$ 
```

compute new target center as a weighted average

```
 $newr = cr*crw + sr*srw + mr*mrw$ 
 $newc = cc*ccw + sc*scw + mc*mcw$ 
 $velr = (newr-rc)/t$ 
 $velc = (newc-cc)/t$ 
```

FIGURE 6

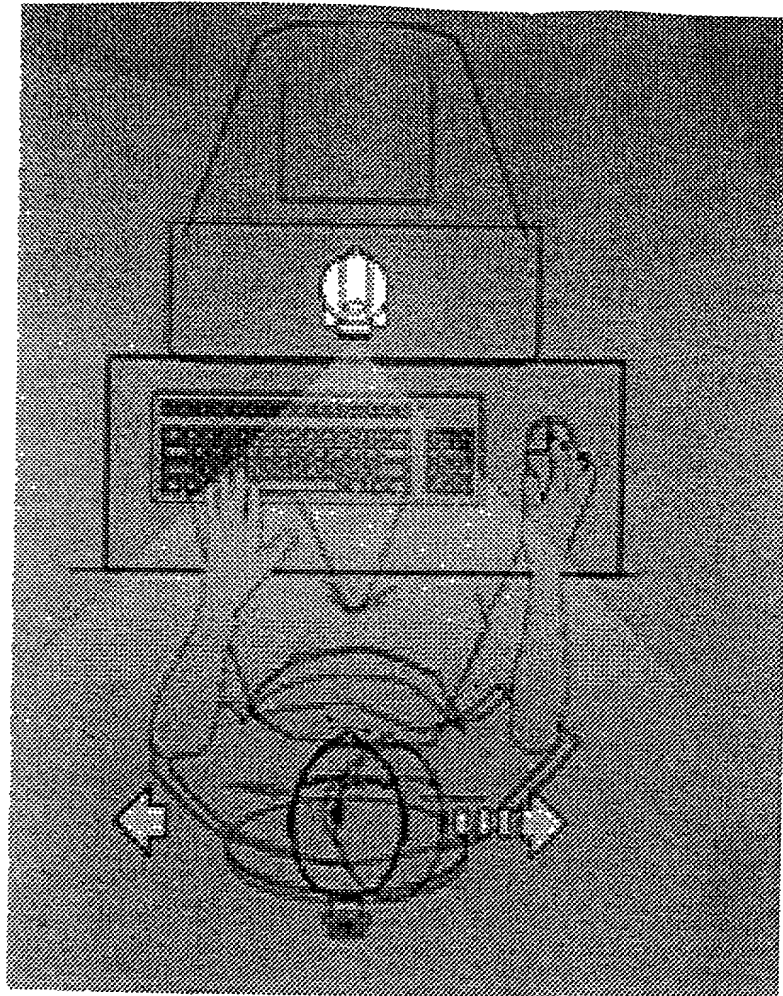


FIGURE 7